ABSTRACT

A fuel cell system comprises a hydrogen supply system 2 which supplies hydrogen to a fuel cell 1, a heating medium supply system 4 which adjusts a temperature of the fuel cell 1 by causing a heating medium to recirculate into the fuel cell 1, a burner 5 which generates high-temperature combustion gas by burning hydrogen, a heat exchanger 6 which warms the fuel cell 1 during a cold start-up operation by providing the heating medium with the heat of the combustion gas such that the heating medium is heated, a purging valve 13 which causes gas inside the hydrogen supply system 2 to flow into the burner 5, and an exhaust three-way valve 21 for discharging the combustion gas without allowing the combustion gas to pass through the heat exchanger 6. During hydrogen purging, the combustion gas is discharged by the exhaust three-way valve 21 so as to bypass the heat exchanger 6.